

Lava Beds National Monument

Curriculum Standards

The following curriculum standards for California and Oregon are covered in this activity binder.

CALIFORNIA

Grade 3

SCIENCE

Life Sciences:

3. Adaptations in physical structure or behavior may improve an organism's chance for survival. As a basis for understanding this concept:
 - a. Students know plants and animals have structures that serve different functions in growth, survival, and reproduction.
 - b. Students know examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands.
 - c. Students know living things cause changes in the environment in which they live: some of these changes are detrimental to the organism or other organisms, and some are beneficial.
 - d. Students know when the environment changes, some plants and animals survive and reproduce; others die or move to new locations.
 - e. Students know that some kinds of organisms that once lived on Earth have completely disappeared and that some of these resembled others that are alive today.

Grade 4

SCIENCE

Life Science

2. All organisms need energy and matter to live and grow. As a basis for understanding this concept:
 - a. Students know plants are the primary source of matter and energy entering most food chains.
3. Living Organisms depend on one another and on their environment for survival. As a basis for understanding this concept:
 - a. Students know ecosystems can be characterized by their living and nonliving components.

- b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.
- c. Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.

Grade 4

MATHEMATICS

Measurement and Geometry:

2.0 Students use two-dimensional coordinate grids to represent points and graph lines and simple figures:

2.1 Draw the points corresponding to linear relationships on graph paper (e.g., draw 10 points on the graph of the equation $y = 3x$ and connect them by using a straight line).

Mathematical Reasoning:

1.0 Students make decisions about how to approach problems:

1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.

1.2 Determine when and how to break a problems into simpler parts.

2.0 Students use strategies, skills and concepts in finding solutions:

2.1 Use estimation to verify the reasonableness of calculated results.

2.2 Apply strategies and results from simpler problems to more complex problems.

2.3 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.

2.4 Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.

2.5 Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.

2.6 Make precise calculations and check the validity of the results from the context of the problem.

Grade 4
READING

2.0 Reading Comprehension

Comprehension and Analysis of Grade-Level-Appropriate Text

- 2.2 Use appropriate strategies when reading for different purposes (e.g., full comprehension, location of information, personal enjoyment).
- 2.3 Make and confirm predictions about text by using prior knowledge and ideas presented in the text itself, including illustrations, titles, topic sentences, important words, and foreshadowing clues.
- 2.4 Evaluate new information and hypotheses by testing them against known information and ideas.
- 2.5 Compare and contrast information on the same topic after reading several passages or articles.
- 2.6 Distinguish between cause and effect and between fact and opinion in expository text.
- 2.7 Follow multiple-step instructions in a basic technical manual (e.g., how to use computer commands or video games).

Grade 4
LISTENING AND SPEAKING

1.0 Listening and Speaking Strategies

Comprehension

- 1.1 Ask thoughtful questions and respond to relevant questions with appropriate elaboration in oral settings.
- 1.2 Summarize major ideas and supporting evidence presented in spoken messages and formal presentations.
- 1.3 Identify how language usages (e.g., sayings, expressions) reflect regions and cultures.
- 1.4 Give precise directions and instructions.

Grade 4
WRITING

1.0 Writing Strategies

Research and Technology

- 1.5 Quote or paraphrase information sources, citing them appropriately.

1.6 Locate information in reference texts by using organizational features (e.g., prefaces, appendixes).

1.7 Use various reference materials (e.g., dictionary, thesaurus, card catalog, encyclopedia, online information) as an aid to writing.

Grade 5

MATHEMATICS

Number Sense

2.0 Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals:

2.1 Add, subtract, multiply, and divide with decimals; add with negative integers; subtract positive integers from negative integers; and verify the reasonableness of the results.

2.2 Demonstrate proficiency with division, including division with positive decimals and long division with multidigit divisors.

2.3 Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and unlike denominators of 20 or less), and express answers in the simplest form.

2.4 Understand the concept of multiplication and division of fractions.

2.5 Compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.

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OREGON

Grade 3 - 4

SCIENCE

Life Science

Organisms:

SC.03.LS.01 Recognize characteristics that are similar and different between organisms.

SC.03.LS.02 Describe the basic needs of living things.

Diversity/Interdependence:

SC.03.LS.04 Describe a habitat and the organisms that live there.

SC.03.LS.05 Identify how some animals gather and store food, defend themselves, and find shelter.

Scientific Inquiry

Collecting and Presenting Data:

SC.03.SI.03 Collect data from an investigation.

Grade 4

MATHEMATICS

Computation and Estimation:

MA.04.CE.06 Develop and evaluate strategies for multiplying and dividing whole numbers and adding and subtracting fractions with like denominators.

MA.04.CE.07 Apply with fluency efficient strategies for determining multiplication and division facts 0-9.

MA.04.CE.08 Multiply a three-digit number by a one-digit number.

MA.04.CE.12 Add and subtract decimals to hundredths, including money amounts.

MA.04.CE.14 Identify the most efficient operation (add, subtract, multiply, or divide) for solving a problem.

Collect and Display Data:

MA.04.SP.05 Represent and interpret data collected from probability experiments and simulations using tallies, charts, pictograms, and bar graphs, including determining probabilities of single events.

Grade 4
READING

Decoding and Word Recognition:

EL.04.RE.01 Read aloud grade-level narrative text and informational text fluently and accurately with effective pacing, intonation, and expression; by the end of fourth grade, read aloud unpracticed grade-level text at a rate of 115-140 wcpm (words correct per minute).

EL.04.RE.02 Read or demonstrate progress toward reading at an independent and instructional reading level appropriate to grade level.

Listen to and Read Informational and Narrative Text:

EL.04.RE.03 Listen to, read, and understand a wide variety of informational and narrative text, including classic and contemporary literature, poetry, magazines, newspapers, reference materials, and online information.

EL.04.RE.04 Make connections to text, within text, and among texts across the subject areas.

EL.04.RE.05 Demonstrate listening comprehension of more complex text through class and/or small group interpretive discussions across the subject areas.

EL.04.RE.06 Match reading to purpose--location of information, full comprehension, and personal enjoyment.

EL.04.RE.07 Understand and draw upon a variety of comprehension strategies as needed—rereading self-correcting, summarizing, class and group discussions, generating and responding to essential questions, making predictions, and comparing information from several sources.

EL.04.RE.08 Clearly identify specific words or wordings that are causing comprehension difficulties and use strategies to correct.

Read to Perform a Task:

EL.04.RE.16 Read textbooks, biographical sketches, letters, diaries, directions, procedures, catalogs, magazines, and informational books.

EL.04.RE.17 Locate information in titles, tables of contents, chapter headings, illustrations, captions, glossaries, indexes, graphs, charts, diagrams, and tables to aid understanding of grade-level text.

EL.04.RE.18 Find information in specialized materials (e.g., atlas, magazine, catalog).

EL.04.RE.19 Use structural features found in informational text (e.g., headings and subheadings) to strengthen comprehension.

Informational Text:

EL.04.RE.20 Identify and/or summarize sequence of events, main ideas, facts, supporting details, and opinions in informational and practical selections.

EL.04.RE.21 Identify key facts and information after reading two passages or articles on the same topic.

Grade 4

LISTENING AND SPEAKING

Listening: Listen critically and respond appropriately across the subject areas.

EL.04.SL.07 Ask thoughtful questions and respond orally to questions with appropriate discussion.

EL.04.SL.08 Summarize major ideas and supporting evidence presented in spoken messages and formal presentations.

EL.04.SL.09 Follow detailed directions and instructions.

Grade 5

SCIENCE

Diversity/Interdependence:

SC.05.LS.05 Describe the relationship between characteristics of specific habitats and the organisms that live there.

SC.05.LS.05.04 Explain the relationship between animal behavior and species survival.

SC.05.LS.05.05 Describe the living and nonliving resources in a specific habitat and the adaptations of organisms to that habitat.

SC.05.LS.06 Describe how adaptations help a species survive.

SC.05.LS.06.01 Describe changes to the environment that have caused the population of some species to change.

SC.05.LS.06.02 Identify conditions that might cause a species to become endangered or extinct.